Technical Assistance Agreement for OSTM

This agreement is entered into between Analex Corporation (Analex), an entity incorporated in the state of Virginia with offices at 2677 Prosperity Ave, Suite 400, Fairfax, VA 22031, USA and the Centre National d'Etudes Spatiales (CNES), a French agency with offices located at 2 place Maurice Quentin, 75 039 Paris Cedex 01, France, and is effective upon the date of the last party to sign the agreement.

WHEREAS Analex will provide technical assessment and mission qualification pre-launch services for the Ocean Surface Topography Mission (OSTM) satellite to CNES under its Expendable Launch Vehicle Integrated Support (ELVIS) contract with the National Aeronautics And Space Administration (NASA); and

WHEREAS OSTM is a cooperative effort between NASA, CNES, the National Oceanic and Atmospheric Administration (NOAA), and the European Organization for the Exploitation of Meteorological Satellites (EUMETSAT); and

WHEREAS NASA's Jet Propulsion Laboratory (JPL), Pasadena, Calif., manages the U.S. portion of OSTM for NASA's Science Mission Directorate. JPL is managed for NASA by the California Institute of Technology. JPL co-partners with CNES on OSTM, who manages the French portion of OSTM (which CNES refers to as Jason-2). OSTM is scheduled for launch in June of 2008; and

WHEREAS CNES will provide the PROTEUS platform and payload module; NASA and CNES will jointly provide the payload instruments; NASA will provide launch services for the satellite; CNES will provide a command and control center for the satellite, a European Earth Terminal and data processing, archiving and distribution infrastructure for the mission; NOAA will provide a control center for the satellite, command and data acquisition stations and data processing, archiving and distribution infrastructure for the mission; and EUMETSAT will provide a site and infrastructure for accommodation of the European Earth terminal, to be integrated into the EUMETSAT Ground Segment infrastructure and data processing, rolling archiving and distribution infrastructure for the mission.

WHEREAS Analex previously has exported to CNES under the ELVIS contract for the CALIPSO mission, reference TAA (AG) 0966-04,

NOW THEREFORE, the parties desire to enter into the Technical Assistance Agreement as follows:

1. NASA has negotiated a formal Memorandum of Understanding or MOU (ANNEX A) with CNES that has the former agree to use its launch services contract to launch the co-developed Jason-2 satellite to support its operations once on orbit, checked out, and functioning; and to share the Earth science data that OSTM will produce. The MOU calls for the signatories' centers and contractors to produce a detailed breakout of the tasks and responsibilities of the

parties called a OSTM Project Plan (ANNEX B) that shall be empowered by the MOU and have the force of an international cooperation agreement concluded by NASA and CNES on its behalf.

CNES has contracted with Alcatel, the builder of the PROTEUS spacecraft bus, for the OSTM spacecraft bus. CNES, has contracted with Alcatel, to provide the Poseidon-3, dual-frequency radar altimeter with its antenna, and has contracted with Thales, to provide the Doppler Orbitography and Radiopositioning Integrated by Satellite (DORIS) receiver package. CNES/Alcatel will integrate the payload and the spacecraft and operate the spacecraft once it is on orbit. NASA will provide an Advanced Microwave Radiometer (AMR) with its antenna, a laser retroreflector array (LRA), and a Global Positioning System Payload (GPSP) receiver package.

NASA has contracted with Analex to perform a launch site support role; a safety and mission assurance oversight role; a launch day operations management role; a mission integration coordination role; a communication and telemetry support role; to provide technical services to the NASA/Analex Launch Engineering Team (LET); provide on-site technical, security, and administrative support; to provide mission analysis of the following analytical areas: Loads and Structural Dynamics, Dynamic Environments, Stress, Flight Design, Flight Software, Controls and Stability, Thermal/Thermodynamics, Electromagnetic Compatibility & CFD/Aerodynamics; and perform engineering and analyses for the NASA Launch Services Program, which necessitates this agreement.

This Technical Assistance Agreement (TAA) is required so that Analex can carry out its responsibilities. Analex personnel will perform their work on site at Vandenberg AFB (VAFB), California and Kennedy Space Center (KSC), Florida before the launch campaign portion of the mission and then at VAFB for the launch campaign portion of the mission, in order to get the Boeing Delta II launch vehicle and OSTM payload integrated and ready for launch, and other tasks required of it by the OSTM Project Plan and the ELVIS contract Statement of Work (SOW) (ANNEX C).

Analex must be able to work closely with the U.S. launch services provider, The Boeing Company (Boeing), and with the French payload Partner, CNES. Analex' work with Boeing and CNES may involve any or all of the services, tasks, and technical data described in the OSTM Project Plan and the ELVIS SOW. That is, Analex must be able to provide oversight and assurance during the integration of the spacecraft payload with the launch vehicle, help to solve engineering and technical problems that are encountered during integration, and to perform other, integration related work with Boeing, CNES and NASA at Vandenberg.

This TAA does NOT include Boeing or Analex Corporation's subcontractors aiSolutions Corporation and Science Applications International Corporation (SAIC). These entities will submit their own license or TAA applications as these prove to be necessary.

This TAA does NOT include work between Analex and CNES' spacecraft bus partner Alcatel for OSTM or other CNES' contractors such as Thales. That work will be covered under a separate TAA.

This TAA also does NOT include export to any other of the OSTM partners, such as EUMETSAT. Analex is NOT expecting to need to work with any other foreign partners for this mission. If the need arises, a separate TAA or license will be submitted, as required.

- 2. It is understood that this Technical Assistance Agreement is entered into as required under U.S. Government Regulations and as such, it is an independent agreement between the parties, the terms of which will prevail, notwithstanding any conflict or inconsistency that may be contained in other arrangements between the parties on the subject matter.
- 3. The parties agree to comply with all applicable sections of the International Traffic in Arms Regulations (ITAR) of the U.S. Department of State and that more particularly in accordance with such regulations the following conditions apply to this agreement:

I. ITAR Section 124.7

- (1) No hardware will be manufactured or exported under this agreement.
- (2) NASA has procured and will provide launch services on a Boeing Delta II launch vehicle and pre-launch engineering support. NASA and its contractors, and CNES and its contractors, and Boeing and its contractors, will jointly develop and verify Interface Control Documents or ICDs on the interface between OSTM and the launch vehicle. This includes providing Analex engineering support for ICDs, identifying and implementing mission unique requirements.

Meetings and telephone conversations/conferences will take place as necessary to maintain control of respective areas of responsibility, on an as required basis. As a general rule, no contractors will be in attendance without prior approval, on an as needed basis.

Working Groups and Reviews and Launch site activities will be on an as required basis, and parties will be invited to attend as appropriate in accordance with the ELVIS contract.

Technical interface will include ICDs, Launch Site Procedures, etc., as per the OSTM Project Plan and the list of documents at EXHIBIT 3.

No hardware will be shipped under this agreement. If it becomes necessary for Analex to ship hardware to CNES, a separate export license will be applied for.

No design or manufacturing know how or rights will be exported under this agreement.

- (3) This TAA is to enter into effect on the date of the final signature and is to remain in effect until March 31, 2011.
- (4) Technical data will be shared with CNES in France and with their employees in the U.S., mostly if NOT exclusively at Vandenberg Air Force Base, California and in its vicinity. Analex will deliver on-site support services to CNES' French personnel at Vandenberg or in its vicinity.

II. ITAR Section 124.8

- (1) This agreement SHALL NOT enter into force, and SHALL NOT be amended or extended without the prior written approval of the Department of State of the U.S. Government.
- (2) This agreement is subject to all United States laws and regulations relating to exports and to all administrative acts of the U.S. Government pursuant to such laws and regulations.
- (3) The parties to this agreement agree that the obligations contained in this agreement SHALL NOT affect the performance of any obligations created by prior contracts or subcontracts which the parties may have individually or collectively with the U.S. Government.
- (4) No liability will be incurred by or attributed to the U.S. Government in connection with any possible infringement of privately owned patent or proprietary rights, either domestic or foreign, by reason of the U.S. Government's approval of this agreement.
- (5) The technical data or defense service exported from the United States in furtherance of this agreement and any defense article which may be produced or manufactured from such technical data or defense service may NOT be transferred to a person in a third country or to a national of a third country except as specifically authorized in this agreement unless the prior written approval of the Department of State has been obtained.
- (6) All provisions in this agreement which refer to the United States Government and the Department of State will remain binding on the parties after the termination of the agreement.

ADDITIONAL TERMS

- 1. This authorization expires March 31, 2011.
- 2. Sub-licensing/retransfer is NOT authorized under this agreement.
- 3. The applicant will NOT export any authorized hardware, software, technical data, or defense services against this agreement until all parties have executed the agreement. In accordance with 22 CFR 124.4(a), one copy of the signed agreement, revised as may be required by the Department of State, will be submitted to Defense Trade Controls within 30 days after it enters into force. The applicant will inform Defense Trade Controls within 60 days, if a decision is made NOT to execute the approved agreement.
- 4. If the agreement is NOT executed within one year of the date of this approval, a written report as to the status of the agreement will be submitted to Defense Trade Controls on an annual basis until the requirements of 22 CFR 124.4 or 22 CFR 124.5 have been satisfied.
- 5. Export or temporary import of hardware against this agreement under the provisions of 22 CFR 123.16(b)(l) or by separate license (i.e., DSP-5 or DSP-73) is NOT authorized. Hardware shipment may take place only after the Department of State approves an amendment to the agreement.

- 6. The applicant SHALL NOT release detailed design data or concepts, design methodology, or manufacturing know-how for the Delta II launch vehicle, components, and ground support equipment. Technical procedures (to include the launch vehicle countdown procedure) that are launch vehicle specific are NOT authorized for release.
- 7. The applicant SHALL NOT provide any technical assistance to the consignee(s) who might assist the consignee(s) in the design, development; or enhancement of contemplated or existing space systems, launch facilities, or launch processes/operations.
- 8. All anomaly/problem resolution shall be accomplished strictly by the responsible parties. Collaborative failure analysis with foreign parties is NOT authorized. Anomaly/non-conformance/failure reports shall be limited to functional block diagrams, top-level descriptions, and drawings/schematics that do NOT reveal detailed design. Data SHALL NOT contain systems engineering processes, techniques, or methodologies.
- 9. Launch failure analysis or investigation is NOT authorized under this license. In case of a launch failure, discussions or transfer of any technical data shall be the subject of a separate license submitted for Department of State approval.
- 10. Information on U.S. Government systems, operations, limitations, or capabilities that is NOT already in the public domain SHALL NOT be offered, discussed, or released.
- 11. There shall be NO unmonitored or unescorted access to the launch vehicle or any controlled equipment or technical data related to the launch, unless otherwise authorized by a license. Whenever foreign nationals are present, monitoring shall be on a 24-hour basis by U.S. participants throughout launch preparations, satellite mating/demating, test and checkout, launch, and debris recovery.
- 12. Foreign nationals WILL NOT be granted access to other facilities, equipment, or work performed in support of the U.S. Government, or to information systems that provide access to additional technical data sources, files or technical data NOT authorized for release under this TAA.
- 13. The applicant shall maintain a library of released technical data subject to U.S. Government inspection and audit. The cost of DOD participation in any audit performed by the U.S. Government is reimbursable to the DOD. No NASA or CNES-provided funds will be used for reimbursement of DOD participation in any audit or meeting performed by the U.S. Government.
- 14. The applicant's independent analyses products or test data released will be limited to results only. The applicant may reference specifications and requirements that need to be met to ensure the safe integration of the spacecraft and launch vehicle. The applicant may point out to the foreign consignee the exact specifications and requirements that are NOT being met. However the applicant WILL NOT augment or suggest changes to the foreign consignee's processes that optimize, enhance, improve or increase the capabilities of the consignee or correct a specific deficiency. Design or technical analysis tools or methods of assessment (models, algorithms, databases or software) which are NOT in the public domain, WILL NOT be offered or released.

- 15. Software source code, operating algorithms and program maintenance documentations WILL NOT be discussed, offered, or released.
- 16. The launch service provider is NOT a signer to this agreement. If the launch service provider attempts to actively participate in technical activities between the applicant and the foreign consignee, the applicant will inform the launch service provider that they WILL NOT be allowed to participate without first obtaining its own license. The applicant WILL NOT act as an agent for the launch service provider. The applicant WILL NOT convey data or services to the foreign consignee for the launch service provider, and if so requested, the applicant will inform the launch service provider that they will need to obtain their own license.
- 17. Applicant will provide NASA HQ, Export Control and Interagency Liaison Division/John Hall Code ID, 300 E. Street, SW, Washington, D.C. 20546, with a copy of this Department of State approved license and signed Technical Assistance Agreement.
- 18. Applicant is only authorized to transfer NASA-controlled technical data and defense services as described in the TAA, and Annexes B & C, and Exhibit 3. Transfer of other NASA non-public domain technical data in support of this TAA requires prior NASA approval. Applicant will contact John Hall, for approval (phone: 202-358-2070, fax: 202-358-4080, e-mail: john.f.hall@nasa.gov).
- 19. Applicant will brief applicable NASA project managers/staff on the scope and limitations of access allowed by this license.
- 20. If a Technology Transfer Control Plan (TTCP) requirement is imposed, applicant will provide a copy of the approved TTCP to Export Control and Interagency Liaison Division/John Hall Code ID, 300 E. Street, SW, Washington, D.C. 20546.
- 21. Employees of CNES who are nationals of a third country (including "dual nationals"), are not authorized to receive any defense articles or services under this agreement. If transfer to a CNES employee who is a national of a third country is required, an amendment approved by the Directorate of Defense Trade Controls will be required. The amendment will need to identify the countries of origin and nationality of any of these CNES employees and prior to execution, the amendment must add language to this effect.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed effective as of the day and year above provided.

Catherine Clark

Corporate Secretary

Analex Export Control Official

Dated: 2/16/07

Young Clase

Pierre MOSKWA

Directeur du Centre Spatial de Toulouse

Centre National d'Etudes Spatiales

Dated : **k** 6/04/9



Fairfax, VA 22031

Ms. Catherine M. Clark Analex Corporation 2677 Prosperity Avenue, Ste 400

United States Department of State

Bureau of Political-Military Affairs Directorate of Defense Trade Controls

Washington, D.C. 20520-0112

JAN 0 8 2007

YOUR LETTER DATED: September 25, 2006 AGREEMENT FOR: Technical Assistance

FOREIGN LICENSEE: Centre National d'Etudes Spatiales – France COMMODITY: Technical Data and Defense Services for Ocean Surface

Topography Mission Satellite

Dear Applicant:

The Department of State approves the request as identified subject to the limitations, provisos or other requirements stated below. The agreement may not enter into force until these requirements have been satisfied. The applicant must submit any request for extension to this office for approval no later than 60 days prior to the authorized expiration date.

Sincerely yours,

Susan M. Clark

Director

Defense Trade Controls Licensing

LIMITATIONS, PROVISOS AND OTHER REQUIREMENTS:

- 1. This authorization expires March 31, 2011.
- 2. Sublicensing/retransfer is not authorized under this agreement. If sublicensing/retransfer is contemplated, the applicant must receive prior written approval from this office to an amendment or proviso reconsideration request

In Reply Refer to DTC Case **TA 2815-06**

describing the purpose of the sublicensing/retransfer activity, the data to be transferred, and the individual parties involved.

- 3. No US signatories may export or temporarily import hardware, software, technical data or defense services against this agreement until all parties have executed the agreement. In accordance with 22 CFR 124.4(a), submit one copy of the signed agreement, revised as may be required herein, to this office no later than 30 days after it enters into force. The applicant must inform this office within 60 days of a decision not to execute this approval.
- 4. If the agreement is not executed within one year of this approval, a written report as to the status of the agreement must be submitted to this office on an annual basis until the requirements of 22 CFR 124.4 or 22 CFR 124.5 have been satisfied.
- 5. Export or temporary import of hardware in furtherance of this agreement under the provisions of 22 CFR 123.16(b)(1) or by separate license is not authorized. Export or temporary import of hardware may take place only after this office approves an amendment to the agreement authorizing such shipments.
- 6. Employees of the foreign licensees who are nationals of a third country (includes "dual nationals") are not authorized to receive any defense articles or services under this agreement. Transfers to employees of the foreign parties who are nationals of a third country may take place only after this office approves an amendment to the agreement which identifies countries of origin and nationality. **Prior to execution**, the applicant must add language to the agreement to make it consistent with this proviso.
- 7. **Prior to execution**, the applicant must add signature blocks to the agreement for both signatories.

Technology Transfer Control Plan To accompany the Technical Assistance Agreement Between

Analex Corporation (U.S.) and Centre National d'Etudes Spatiale (CNES), (France) for the Ocean Surface Topography Mission (OSTM)

General: This Technology Transfer Control Plan (TTCP) is intended to supply guidance and direction to employees of Analex Corporation (Analex) and its subcontractors (if any) for protecting United States technology from inadvertent and illegal transfer to foreign nationals employed by any of the parties to the subject Technical Assistance Agreement (TAA) or any other agreement concerning OSTM. To be effective, a TTCP must identify what technology may be transferred or co-developed through discussion, display, or by physical means such as paper, e-mail, or Internet. It must identify to whom such transfers may be made and it must prescribe means to report the transfers and any violations of the terms of the TAA. Lastly, it must provide a means to both train employees and record that training.

<u>Background</u>: The National Aeronautics and Space Administration (NASA) has negotiated a formal Memorandum of Understanding or MOU with the Centre National d'Etudes Spatiale (CNES) that has the former agree to use its launch services contract to launch the cooperatively-built OSTM; to support its operations once on orbit, checked out, and functioning; and to share the Earth science data that OSTM will produce. The MOU calls for the signatories' centers and contractors to produce a detailed breakout of the tasks and responsibilities of the parties called the OSTM Project Plan that shall be empowered by the MOU and have the force of an international agreement.

CNES will provide the PROTEUS platform and payload module; NASA and CNES will jointly provide the payload instruments; NASA will provide launch services for the satellite; CNES will provide a command and control center for the satellite, a European Earth Terminal and data processing, archiving and distribution infrastructure for the mission; NOAA will provide a control center for the satellite, command and data acquisition stations and data processing, archiving and distribution infrastructure for the mission; and EUMETSAT will provide a site and infrastructure for accommodation of the European Earth terminal, to be integrated into the EUMETSAT Ground Segment infrastructure and data processing, rolling archiving and distribution infrastructure for the mission.

Note: No ELVIS personnel are expected to interact with NOAA or EUMETSAT personnel. In the event EUMETSAT personnel are present at meetings or on email distribution, etc., Analex employees are to refrain from exporting. Such export is not authorized. Interaction with Alcatel Space employees for the OSTM mission will be covered under a separate TAA.

NASA has contracted with Analex to provide the on-site payload-to-launch vehicle integration services under the ELVIS contract with NASA's Kennedy Space Center (which operates NASA's facilities at Vandenberg AFB, California.). Analex will perform a safety and mission assurance oversight role, launch site support engineering role, a launch operations management role, a mission integration coordination role, a communication and telemetry support role, to provide

technical services to the NASA/Analex Launch Engineering Team (LET), provide on-site technical, security, and administrative support and assist in the technical preparation of the spacecraft at Vandenberg AFB, California, provide mission analysis of the following analytical areas: Loads and Structural Dynamics, Dynamic Environments, Stress, Flight Design, Flight Software, Controls and Stability, Thermal/Thermodynamics, Electromagnetic Compatibility & CFD/Aerodynamics, and perform engineering and analyses for the NASA Program, which necessitates this agreement.

Analex personnel will perform the work from Kennedy Space Center (KSC), and on site at Vandenberg AFB (VAFB), California to get the launch vehicle and OSTM payload integrated and ready for launch, and will assist with other tasks required of it by the OSTM Project Plan and the ELVIS contract Statement of Work or SOW.

What may be Transferred: The TAA authorizes Analex to carry out the tasks described in the OSTM Project Plan and the ELVIS SOW during interaction with CNES employees only and for the OSTM mission only, and to permit CNES's employees to have access to the technical documents described in the TAA. Thus, ANNEXES B and C and Exhibit 2 of the TAA, as allowed in the final State Department license; i.e., the TAA in the form and with the provisos returned to Analex by the Office of Defense Trade Controls, describe the techniques, know-how, and technical data that are permitted to be shared.

<u>Training</u>: All Analex employees working on OSTM are required to have completed Kennedy Space Center (KSC) web based training lessons: "Basic Export Control Program," "Foreign National Visit Processing," and Technical Information Exchange." These lessons are provided in CD-ROM format for those who do not have access to the internal KSC website or the NASA SOLAR website. All Analex employees working OSTM will read the OSTM Project Plan and the ELVIS SOW. These establish the procedures they are to follow and the limits to their cooperative work with CNES employees.

All training will be recorded by the Analex Export Control Representative.

Operations: From the first moment that Analex and CNES personnel start work until the final moment of such cooperation, Analex personnel will observe the limits to cooperation that the TAA permits. Logs or other records of topics discussed, documents accessed, issues resolved, and other cooperative work will be kept up to date and will be accessible to employees, managers, and NASA alike. Where the topics discussed and the work done are clearly within the framework of the TAA, these records need not be elaborate or detailed. Where there is any question of whether or not the material worked with falls within the bounds of the TAA, then detailed records of what was discussed, with whom, when, and where must be made. Such records must also be available as before, but it is the responsibility of the senior employee involved to make the Analex PM aware of the matter as soon as possible. If at any time any Analex employee is uneasy about what is being done or discussed, it is perfectly appropriate for the employee to terminate the activity at once and report it to the Analex PM or such person as the Analex PM has designated to receive these reports.

Physical security will be provided by NASA and Analex in accordance with the procedures specified by the Commander, 30th Space Wing, USAF. These procedures are stringent and call for 100% escort for all foreign nationals while on Vandenberg AFB. Compliance with these procedures supports this TTCP.

NASA has published its direction, procedures, and guidelines in NASA Program Directive (NPD) 1371.5, Coordination and Authorization of Access by Foreign Nationals and Foreign Representatives to NASA and NASA Program Guidance 1371.2, Coordination and Authorization of Access by Foreign Nationals and Foreign Representatives to NASA, use of which is mandated by the ELVIS contract. NASA has also implemented an automated visit control system, the NASA Foreign National Management System (NFNMS). NASA's processes for handling foreign nationals call for checks of various U.S. Government agency lists to determine if individuals have been listed as barred from doing business with the Government or are otherwise to be carefully watched. NASA visit processes will be used to manage visits by CNES personnel to Vandenberg and to meetings, etc., held on the subject of OSTM. Compliance with these procedures supports this TTCP.

KSC Procedures for foreign national access to KSC and CCAFS are contained in Kennedy Handbook (KHB) 1610.1, KSC Security Handbook, Section 406. These call for a Technology Transfer Risk Assessment (TTRA) for visitors from certain countries and for any visitor who will be on station more than a total of 30 days in one year. This procedure is specifically extended for CNES personnel working at Vandenberg for more than 30 days in one year. Compliance with these procedures supports this TTCP.

<u>Recording</u>: All records, logs, notes, etc., that result from the operation of this TTCP will be maintained under the control of Analex' Empowered Official for five (5) full years after the expiration date of the Technical Assistance Agreement; i.e., five years from March 31, 2011.